



## Complete Summary

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### TITLE

Acute myocardial infarction (AMI): percentage of AMI patients prescribed a statin at hospital discharge.

### SOURCE(S)

Canadian Cardiovascular Outcomes Research Team (CCORT). CCORT/CCS quality indicators: quality indicators for acute myocardial infarction (AMI) care. [internet]. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2003 [cited 2004 Mar 31]. [various]. [6 references]

Canadian Cardiovascular Outcomes Research Team (CCORT). Quality of cardiac care in Ontario. EFFECT (Enhanced Feedback for Effective Cardiac Treatment) study -- Phase I. Report 1. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2004 Jan. 66 p.

## Brief Abstract

### DESCRIPTION

This measure assesses percentage of acute myocardial infarction (AMI) patients prescribed a statin at hospital discharge.

### RATIONALE

Cardiovascular disease continues to claim the lives of many Canadians and creates enormous disability for those who survive. While considerable progress has been made in developing effective treatment and therapies, significant opportunities remain to improve the quality of cardiac care provided for the benefit of all Canadians.

The combined results of laboratory and clinical research have identified specific clinical strategies that are beneficial for both initial treatment and secondary prevention of acute myocardial infarction (AMI). These therapies include the use of acetylsalicylic acid (ASA), thrombolytics, beta-blockers, angiotensin-converting enzyme (ACE) inhibitors and statins for AMI. However, these proven therapies are often being underutilized in routine clinical practice in Ontario and Canada and there is wide inter-hospital variation in their use. Increasing use of these therapies could lead to significant reduction in the mortality rate associated with these conditions.

A set of Canadian quality indicators for the care of AMI patients has been established. It is anticipated that these indicators will be useful to clinicians and

researchers who want to measure and improve the quality of AMI patient care in Canada.

#### PRIMARY CLINICAL COMPONENT

Acute myocardial infarction; statins

#### DENOMINATOR DESCRIPTION

Patients with a confirmed acute myocardial infarction (AMI) discharged alive (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

#### NUMERATOR DESCRIPTION

Patients from the denominator prescribed a statin at hospital discharge

### Evidence Supporting the Measure

#### PRIMARY MEASURE DOMAIN

Process

#### SECONDARY MEASURE DOMAIN

Not applicable

#### EVIDENCE SUPPORTING THE MEASURE

A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

### Evidence Supporting Need for the Measure

#### NEED FOR THE MEASURE

Use of this measure to improve performance  
Wide variation in quality for the performance measured

#### EVIDENCE SUPPORTING NEED FOR THE MEASURE

Canadian Cardiovascular Outcomes Research Team (CCORT). Quality of cardiac care in Ontario. EFFECT (Enhanced Feedback for Effective Cardiac Treatment) study -- Phase I. Report 1. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2004 Jan. 66 p.

### State of Use of the Measure

#### STATE OF USE

Current routine use

#### CURRENT USE

Internal quality improvement  
Quality of care research

### Application of Measure in its Current Use

#### CARE SETTING

Hospitals

#### PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

#### LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

#### TARGET POPULATION AGE

Age 20 to 105 years

#### TARGET POPULATION GENDER

Either male or female

#### STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

### Characteristics of the Primary Clinical Component

#### INCIDENCE/PREVALENCE

At present, approximately 3% of all Canadians aged 35 to 64 years report having heart disease.

#### EVIDENCE FOR INCIDENCE/PREVALENCE

Canadian Cardiovascular Outcomes Research Team (CCORT). Quality of cardiac care in Ontario. EFFECT (Enhanced Feedback for Effective Cardiac Treatment) study -- Phase I. Report 1. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2004 Jan. 66 p.

#### ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

## BURDEN OF ILLNESS

- Cardiovascular disease (CVD) is the leading cause of death in Canada, claiming over 78,000 lives (roughly 36% of all deaths) in Canada each year.
- Approximately 38,000 Canadians were hospitalized with acute myocardial infarction (AMI/heart attack) in 1996 - of these about 15% died within 30 days of the event and 23% died within one year. Many AMI patients who survive their index hospitalization go on to develop congestive heart failure. Hospitalized heart failure patients have an even worse prognosis, with a one-year mortality rate of 33% - worse than that of most malignancies.
- CVD also represents enormous disability, with over 30% of those who report they have heart disease being unable to work due to their illness.

## EVIDENCE FOR BURDEN OF ILLNESS

Canadian Cardiovascular Outcomes Research Team (CCORT). Quality of cardiac care in Ontario. EFFECT (Enhanced Feedback for Effective Cardiac Treatment) study -- Phase I. Report 1. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2004 Jan. 66 p.

## UTILIZATION

Cardiovascular disease (CVD) accounts for 18% of all hospitalizations among men and women - more than any other health problem.

## EVIDENCE FOR UTILIZATION

Canadian Cardiovascular Outcomes Research Team (CCORT). Quality of cardiac care in Ontario. EFFECT (Enhanced Feedback for Effective Cardiac Treatment) study -- Phase I. Report 1. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2004 Jan. 66 p.

## COSTS

The economic burden of cardiovascular disease (CVD) on the health care system is considerable and growing. In 1998, the estimated costs were approximately \$19 billion, comprised of \$6.8 billion in direct costs, plus \$11.6 billion in indirect costs. This figure is expected to increase as the population continues to age.

## EVIDENCE FOR COSTS

Canadian Cardiovascular Outcomes Research Team (CCORT). Quality of cardiac care in Ontario. EFFECT (Enhanced Feedback for Effective Cardiac Treatment) study -- Phase I. Report 1. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2004 Jan. 66 p.

## Institute of Medicine National Healthcare Quality Report Categories

### IOM CARE NEED

Getting Better

### IOM DOMAIN

Effectiveness

## Data Collection for the Measure

### CASE FINDING

Users of care only

### DESCRIPTION OF CASE FINDING

#### Inclusions

Patients with confirmed acute myocardial infarction (AMI):

- Most responsible diagnosis of AMI (International Classification of Diseases, Ninth Revision [ICD-9] code 410)
- European Society of Cardiology/American College of Cardiology (ESC/ACC) clinical criteria indicating myocardial infarction (MI) (electrocardiogram changes, symptoms, enzymes)
- Timing of the MI - must have occurred before the patient arrived at hospital

#### Exclusions

- Not admitted to an acute care hospital
- Age less than 20 or greater than 105 years
- Invalid health card number
- Admitted to non-cardiac surgical service
- Transferred from another acute care facility
- AMI coded as an in-hospital complication
- AMI admission within the past year

### DENOMINATOR SAMPLING FRAME

Patients associated with provider

### DENOMINATOR (INDEX) EVENT

Clinical Condition

Institutionalization

### DENOMINATOR INCLUSIONS/EXCLUSIONS

## Inclusions

- Patients with confirmed acute myocardial infarction (AMI) who met case definition criteria (see the "Description of Case Finding" field) and discharged alive
- Total serum cholesterol level on admission greater than 5.2 mmol/L or low-density lipoprotein (LDL) greater than 3.4 mmol/L

## Exclusions

- Liver disease (last aspartate transaminase [AST] or alanine aminotransferase [ALT] greater than or equal to 2 times the upper limit of normal)
- Patients with cholestasis (last bilirubin greater than or equal to 50 mmol/L)
- Patients on fibrates (at risk of rhabdomyolysis)
- Physician documented reason at any time for not prescribing statin (e.g., patient refusal)

## NUMERATOR INCLUSIONS/EXCLUSIONS

### Inclusions

Patients from the denominator prescribed a statin at hospital discharge

### Exclusions

Unspecified

## DENOMINATOR TIME WINDOW

Time window precedes index event

## NUMERATOR TIME WINDOW

Encounter or point in time

## DATA SOURCE

Administrative data

Medical record

## LEVEL OF DETERMINATION OF QUALITY

Individual Case

## PRE-EXISTING INSTRUMENT USED

Unspecified

## Computation of the Measure

## SCORING

Rate

#### INTERPRETATION OF SCORE

Better quality is associated with a higher score

#### ALLOWANCE FOR PATIENT FACTORS

Unspecified

#### STANDARD OF COMPARISON

External comparison at a point in time

Internal time comparison

Prescriptive standard

#### PRESCRIPTIVE STANDARD

The benchmark/target level for statin prescribed at discharge is greater than or equal to 70%.

#### EVIDENCE FOR PRESCRIPTIVE STANDARD

Canadian Cardiovascular Outcomes Research Team (CCORT). Quality of cardiac care in Ontario. EFFECT (Enhanced Feedback for Effective Cardiac Treatment) study -- Phase I. Report 1. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2004 Jan. 66 p.

### Evaluation of Measure Properties

#### EXTENT OF MEASURE TESTING

Unspecified

### Identifying Information

#### ORIGINAL TITLE

Statin prescribed at discharge.

#### MEASURE COLLECTION

[CCORT/CCS Quality Indicators](#)

#### MEASURE SET NAME

[CCORT/CCS Quality Indicators for Acute Myocardial Infarction \(AMI\)](#)

#### SUBMITTER

Canadian Cardiovascular Outcomes Research Team

#### DEVELOPER

Canadian Cardiovascular Outcomes Research Team  
Canadian Cardiovascular Society

#### ADAPTATION

Measure was not adapted from another source.

#### RELEASE DATE

2003 Jan

#### MEASURE STATUS

This is the current release of the measure.

#### SOURCE(S)

Canadian Cardiovascular Outcomes Research Team (CCORT). CCORT/CCS quality indicators: quality indicators for acute myocardial infarction (AMI) care. [internet]. Toronto (ON): Canadian Cardiovascular Outcomes Research Team (CCORT); 2003 [cited 2004 Mar 31]. [various]. [6 references]

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#### MEASURE AVAILABILITY

The individual measure, "Statin Prescribed at Discharge," is published in "Quality of Cardiac Care in Ontario. EFFECT (Enhanced Feedback for Effective Cardiac Treatment) Study -- Phase I, Report 1." This document is available from the [Canadian Cardiovascular Outcomes Research Team \(CCORT\)](#).

For more information, contact CCORT at, G1 06 2075 Bayview Avenue, Toronto, Ontario M4N 3M5; Phone: (416) 480-4055 x3874; Fax: (416) 480-6048; Web site: [www.ccort.ca](http://www.ccort.ca).

#### COMPANION DOCUMENTS

The following is available:

- Tran CT, Lee DS, Flintoft VF, et al. CCORT/CCS quality indicators for acute myocardial infarction care. Can J Cardiol 2003 Jan; 19(1): 38-45.



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#### NQMC STATUS

This NQMC summary was completed by ECRI on July 1, 2004. The information was verified by the measure developer on July 26, 2004.

#### COPYRIGHT STATEMENT

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